REMARKS

Applicant respectfully requests that the instant application be reconsidered in light of the above amendments and the following remarks.

Claims 1, 5-10, 12, 13, 15-20, and 28-31 have been amended.

Claims 21-27 and 32-35 have been withdrawn.

New Claims 36-40 have been added.

Summary of the Amendments

Claims 21-27 and 32-35 are drawn to a non-elected invention and have been withdrawn.

Claims 1, 28, 29, 30, and 31 have been amended to further clarify that the recited activator is an alumoxane, an aluminum alkyl, an alkyl aluminum halide, an alkylaluminum alkoxide, a discrete ionic activator, or a Lewis acid. Support for this amendment may be found in the Examples, and beginning on Page 15 to the end of Page 16 of the application as filed.

New Claims 36-39 further limit Applicants' presently claimed invention to include particular activators. Support for New Claims 36-39 may be found in the Examples, and on Pages 15 and 16 of the Application as filed. New Claim 40 further limits Applicants' presently claimed invention to comprise a solid support. Support for New Claim 40 may be found on Pages 17 and 18 of the Application as filed. No new matter has been added.

Restriction Requirement Pursuant to 35 U.S.C. §121

In compliance with the restriction requirement under 35 U.S.C. § 121, Applicants hereby elect to prosecute Group I, Claims 1-20 and 28-31 with traverse. This election is being made without prejudice to Applicants' rights with respect to Claims 21-27 and 32-35, including the right to file divisional applications thereon. Accordingly, Claims 21-27 and 32-35 are hereby withdrawn from further consideration.

Rejections Under 35 USC § 112, second paragraph

Claims 1-20 and 28-31 are rejected under 35 U.S.C. §112, second paragraph.

The Examiner suggests the term "Y" is indefinite.

Applicants have amended the specification to further clarify that the term "Y" as used herein represents a hydrocarbyl bridge, as defined in the specification. The term "Y" is thus clearly defined from other alternative meanings. Support for this amendment may be found in the specification on Page 7.

Claim 2 is alleged to be repetitive of Claim 1. Applicants respectfully disagree. The Claim 2 further limits the catalyst system to the recited structure. The catalyst recited in Claim 1 need only comprise the recited elements, while Claim 2 is further limited to the particular elements arranged as shown in the recited formula. Accordingly, Claim 2 further limits Applicants' presently claimed invention.

Claims 5, 6, 7, 8, 18, and 30 have been amended as suggested to delete the term "selected from", and to refer to the recited limitations in the alternative form.

Claim 9 has been amended to replace the comma with a semicolon, as suggested.

Claims 10, 30 and 31 have been amended, as suggested, to insert the term "to each other" between the recited "connected" and "to form..."

Claim 12 has been amended to refer to the recited limitations in the alternative.

Claims 13, 15, 16, 17, 18, 20, 28, 29, and 30 have been amended to recite "from the group consisting of", and to refer to the claimed limitations using the term "and" prior to the penultimate limitation.

The redundant recitations have been deleted in Claim 31, as suggested by Examiner.

Claim 15, which depends from Claim 1 further limits the Group 8, 9, and 10 metals to Rows 4, 5, and 6. Accordingly, Claim 15 further limits Claim 1 from including Hs, Mt, and element 110. Removal of the rejection is respectfully requested.

Claim 19 has been amended to depend directly from Claim 2 and insert a comma in part (a). Parts (b) and (c) are now consistent with element "Y" of Claim 2, thus, proper antecedent basis exists for the recited limitations.

Claims 20, 28, 29, 30, and 31 have been amended as suggested, with the exception that the definitions of (ii), and (iii) have not been deleted in the interest of clarity. Applicants define N as nitrogen and P as phosphorous. In light of the use of other alpha-numeric characters as recited in the claims, Applicants have recited these

definitions in the claims to insure clarity of the presently claimed invention. Applicants thus endeavor to define each and every element to avoid any possible confusion in determining the scope of the presently claimed invention.

Claim Rejections Under 35 USC §102

Claims 1-20 and 28-31 have been rejected under 35 USC §102 (b) as being anticipated by U.S. Patent number 6,307,087 to Buchwald (hereinafter Buchwald). Buchwald is directed to a catalyst for Suzuki type coupling reactions using aryl halides. As Examiner admits, Buchwald is directed to using bases in combination with the catalysts to produce Suzuki-type coupling. Buchwald fails to disclose or suggest the activators recited by Applicants, e.g., alumoxane, aluminum alkyl, alkyl aluminum halide, alkylaluminum alkoxide, discrete ionic activators, or Lewis acid activators. Buchwald also fails to disclose utilizing the catalyst under proper conditions for polymerizing or oligomerizing alpha olefins. Since Buchwald fails to disclose all of Applicants' recited limitations, Buchwald cannot anticipate Applicants' presently claimed invention. Removal of the rejection is respectfully requested.

Claim Rejections Under 35 USC §103

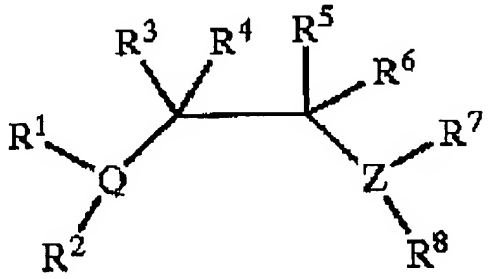
Claims 1-20, and 28-31 have been rejected under 35 USC §103 as being unpatentable over U.S. Patent No. 6,323,353 to Sumi et al. (hereinafter Sumi) in view of U.S. Patent Number 6,710,007 to Brookhart (hereinafter Brookhart) or JP-09-255713 to Yorisue (hereinafter Yorisue.)

Sumi is alleged to disclose Applicants' recited cocatalyst. Brookhart is alleged to disclose "catalysts having a similar structure and transition metal" of Sumi used for olefin polymerization. Brookhart is alleged to teach that organoaluminum activators are conventional in the art. Yorisue is alleged to be similar to the teaching of Brookhart.

Sumi is directed to providing a metal complex which has a novel aminophosphine compound for asymmetric synthesis, especially asymmetric carbon-carbon bond formation and asymmetric hydrogenation (see Col. 3, lines 44-50). Accordingly, Sumi is directed to catalysts and conditions useful in Suzuki type coupling reactions. Sumi fails

to disclose Applicants' recited activators, which are essential for olefin polymerization. Sumi also fails to disclose or suggest Applicants' presently claimed catalyst system, or utilizing the catalyst for polymerization or oligomerization of an alpha-olefin.

Brookhart is directed to catalyst comprising ligands having a phosphino group and a second functional group such as an amide, ester or ketone (see Abstract.) Brookfield discloses a complex of a ligand of the formula



(see Summary of the Invention).

Brookhart is thus directed to a complex having a two-carbon, saturated bridge between Q (nitrogen or phosphorous) and Z (nitrogen or oxygen.) However, Applicants recite a hydrocarbyl bridge Y, comprising a backbone wherein the hydrocarbyl bridge connects between the terminal amine and the terminal phosphine and wherein the backbone comprises a chain that is four our more carbon atoms long. Accordingly, Brookhart fails to disclose catalysts having a similar structure to that of Sumi. Brookhart thus fails to disclose or suggest the catalyst disclosed by Sumi, much less utilizing such catalysts with an acidic activator (e.g., an organoaluminum activator) to polymerize or oligomerize alpha-olefins.

Likewise, Yorisue is directed to obtaining an olefin polymer having a branched structure with a narrow molecular weight distribution, or an olefin copolymer having a branched structure with a narrow molecular weight distribution and composition distribution in an excellent yield of polymer per unit weight of catalyst by using a compound of a specified transition metal element as the polymerization catalyst. The polymerization catalyst disclosed is a compound of a group 10 transition metal element, represented by the formula LMX_2. In the formula, L is a bidentate chelating ligand

represented by the formula A1 -Y-A2 (wherein A1 and A2 are each a monodentate group coordinating with M through an element selected from group 15 elements; and Y is a hydrocarbon group, or a group which is selected from those containing groups 8, 14, 15 and 16 elements and binds A1 to A2 through covalent bonding); M is a transition metal element selected from group 10 elements; and X is H, or a monovalent ligand selected from groups bound to M through any one of groups 14 to 17 elements. Brookhart fails to remedy the defects of Sumi.

Similar to Brookhart, Yorisue fails to disclose catalysts having a similar structure and transition metal to that of Sumi and as such, Yorisue fails to disclose or suggest the catalyst of Sumi, much less utilizing the catalyst of Sumi with an acidic activator (e.g., an organoaluminum activator) to polymerize or oligomerize alpha-olefins. Yorisue fails to remedy the defects of Sumi.

Since Sumi in combination with either Brookhart or Yorisue fail to disclose or suggest Applicants' presently claimed invention, the cited are cannot reasonably be found to obviate the claims as currently amended. Applicants respectfully request the rejection of the claims be removed, and the claims be passed to allowance. Reconsideration and allowance is respectfully requested.

Respectfully submitted,

Date: Feb 28, 2006

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